WHAT IS CLAIMED IS:

1. A drill bit comprising:

a body having a proximal end and a distal end with a closed face, the body defining an axis and comprising a first portion adjacent to the proximal end and a second portion adjacent to the distal end wherein the portions are substantially cylindrical and a first outer diameter of the first portion is greater than a second outer diameter of the second portion;

a coupling at the proximal end, the coupling adapted for connection with a rotary driver; and

a depth stop located between the first portion and the distal end circumferentially around the second portion, the depth stop adjustably secured to the first portion by a plurality of adjusting screws in a manner to limit penetration of the bit.

2. The drill bit of claim 1 wherein the adjusting screws are substantially parallel to the axis.

3. The drill bit of claim 1, further comprising:

a primary cutting surface substantially located on the closed face, comprising at least one outer cutter segment; and

a secondary cutting surface substantially located on a portion of the body with a diameter greater than a diameter of the closed face.

4. The drill bit of claim 3 wherein the first outer diameter is approximately thirty-three percent greater than the second outer diameter.

5. The drill bit of claim 3 wherein the first outer diameter is between about 1.9 and 2.7 inches and the second outer diameter is between about 1.5 and 2.1 inches.

6. The drill bit of claim 3, further comprising an intermediate ring extending radially outward circumferentially about the second portion to provide centering.

7. The drill bit of claim 3 wherein secondary cutting surface is substantially located on the intermediate ring.

8. The drill bit of claim 3 wherein an outer diameter of the intermediate ring is between about 1.9 and about 2.3 inches.

9. The drill bit of claim 3 wherein the at least one outer diamond cutter segment comprises a plurality of outer diamond cutter segments spaced around a circumference of the closed face.

10. The drill bit of claim 9 wherein the primary cutting surface further comprises at least one inner diamond cutter segment extending across the closed face.

11. The drill bit of claim 10 wherein the outer and inner diamond cutter segments are water cooled.

12. The drill bit of claim 1 wherein the coupling is threaded to fit a drilling machine.

13. The diamond core bit of claim 1 wherein the coupling is a Bantam™ coupling.

14. The drill bit of claim 1, further comprising a pilot drill extending axially from the distal end of the body.

15. The drill bit of claim 13 wherein the pilot drill is tipped by a diamond cutter tip.

16. The drill bit of claim 14 wherein the diamond cutter segments and tip are water cooled.

17. The drill bit of claim 16 further comprising at least one internal cooling channel extending longitudinally along the bit.

18. The drill bit of claim 17, further comprising:
a stop outer diameter approximately greater than the first outer diameter; and
a stop inner diameter slightly greater than the second outer diameter.

19. The drill bit of claim 1 wherein the depth stop is substantially disk shaped.

20. The drill bit of claim 1 wherein the diamond cutter segments are water cooled.

21. A drill bit comprising:

a body having a proximal end and a distal end with a closed face, the body defining an axis and comprising a first portion adjacent to the proximal end and a second portion adjacent to the distal end wherein the portions are substantially cylindrical and a first outer diameter of the first portion is greater than a second outer diameter of the second portion;

a coupling at the proximal end, the coupling adapted for connection with a rotary driver;

a primary cutting surface substantially located on the closed face, comprising at least one outer cutter segment; and

a secondary cutting surface substantially located on a portion of the body with a diameter greater than a diameter of the closed face.

22. The drill bit of claim 21 further comprising a depth stop located between the first portion and the distal end circumferentially around the second portion, the depth stop adjustably secured to the first portion by a plurality of adjusting screws in a manner to limit penetration of the bit.

23. A drill bit comprising:

a body having a distal end with a closed face and a proximal end, the body defining an axis and comprising a first portion adjacent to the proximal end, a second portion adjacent to the distal end, and an intermediate ring wherein

the portions are substantially cylindrical,

an outer diameter of the first portion is between about 1.9 and about 2.7 inches,

an outer diameter of the second portion is between about 1.5 and about 2.1 inches,

the intermediate ring extends radially outward circumferentially about the second portion, and

a Bantam™ coupling at the proximal end, the Bantam™ coupling adapted for connection with a rotary driver,

a depth stop adjustably secured to the first portion by a plurality of adjusting screws wherein the adjusting screws are substantially parallel to the axis, the depth stop being

adjustably located between the first portion and the distal end circumferentially around the second portion in a manner to limit penetration of the bit;

a primary cutting surface substantially located on the closed face, comprising a plurality of outer diamond cutter segments spaced around a circumference of the closed face and at least one inner diamond cutter segment extending across the closed face,

a secondary cutting surface substantially located on the intermediate ring; and

a pilot drill extending axially from the distal end of the body wherein the pilot drill is tipped by a cutter tip.

24. The drill bit of claim 23 wherein the depth stop is substantially disk shaped, with a stop outer diameter of about 2.5 inches and a stop inner diameter of about 1.9 inches.

25. The drill bit of claim 23 wherein the diamond cutter segments are water cooled.

26. The drill bit of claim 25 further comprising at least one internal cooling channel extending longitudinally along the bit.

27. The drill bit of claim 23, further comprising a plurality of springs located between and biasing the first portion from the depth stop, each spring of the plurality of springs being located circumferentially about one of the plurality of adjusting screws.

28. The drill bit of claim 23 wherein the cutting surfaces comprise diamond.

29. The drill bit of claim 23 wherein the cutting surfaces comprise synthetic diamond.

30. A method of drilling a hole, defined by a predetermined depth, a first diameter, and a different second diameter, in a surface, the method comprising:

locating a drilling machine having a drill bit, constructed in a manner to drill and core two different diameters in a single operation, over a target location;

compensating for wear on the drill bit by setting a depth stop to stop travel of the drill bit at the predetermined depth;

operating the drilling machine to drill the diamond core bit into a surface at the target location until the depth stop contacts a surface of the target location, a primary cutting surface forming a portion of the hole defined by the first diameter and a secondary cutting

surface forming a portion of the hole defined by the second diameter in one step; and removing the drill bit from the hole.

31. The method of claim 30 further comprising:
connecting a water source to the drilling machine prior to operating the machine;
cooling the cutting surfaces with flow of water; and
removing slurry water from the hole after removing the drill bit from the hole.

32. The method of claim 30 wherein the cooling further comprises passing the flow of water through at least one internal cooling channel extending longitudinally along the bit.

33. The method of claim 30 further comprising fastening the drilling machine to the surface after locating the drilling machine over the target location and prior to operating the drilling machine.

34. A method of installing a marker in a surface, the method comprising:
locating a drilling machine having a drill bit over a target location;
compensating for wear on the drill bit by setting a depth stop to limit travel of the drill bit at a predetermined depth;
drilling and coring a hole having two different diameters in a single operation, a primary cutting surface forming a portion of the hole defined by a first diameter and a secondary cutting surface forming a portion of the hole defined by a second diameter in one step;
removing the diamond core bit from the hole; and
installing the marker into the hole.

35. The method of claim 34 further comprising:
connecting a water source to the drilling machine prior to operating the machine;
cooling the cutting surfaces by providing a flow of water thereto; and
removing slurry water from the hole after removing the diamond core bit from the hole.

36. The method of claim 35 wherein cooling comprises providing a flow of water through an internal cooling channel extending longitudinally along the bit.

37. The method of claim 34 further comprising fastening the drilling machine to the surface after locating the drilling machine over the target location and prior to operating the drilling machine.

38. The method of claim 34 further comprising installing a marker comprising a reflective marker held in place after installation by compression of the marker by sides defining the hole.

39. The method of claim 37 further comprising installing the marker by pushing the marker into the hole.

40. The method of claim 34 further comprising installing the marker flush with the surface.